DRY POWDER FORMULATIONS OF ANTIHISTAMINE FOR NASAL ADMINISTRATION

Abstract of the Disclosure

Dry powder formulations of drugs such as antihistamine for nasal administration are provided where the drug is retained in the nasal cavity, and systemic side effects minimized or eliminated, through the selection of a narrow particle size range, between approximately 10 and 20 microns in diameter. In a preferred embodiment wherein the drug is an antihistamine, retention of the antihistamine at the nasal mucosa is improved and the bitter aftertaste associated with liquid antihistamine formulations significantly reduced. By making a dry powder formulation of an antihistamine (e.g., azelastine) having an average particle size of between 10 and 20 microns, the antihistamine is restricted primarily to the desired target organ, the nasal mucosa. Because the active ingredient stays in the nasal region, a lower dose can be used to achieve the same desired effect. As demonstrated by the examples, this lower dose reduces the incidence of somnolence, and because the active ingredient remains at the target organ and does not accumulate in the back of the throat and mouth, this formulation does not impart a bitter taste.